

DRILL STEM TEST REPORT

Prepared For: **Samuel Gary & AssociatesInc**

1515 Wynkoop,
Ste 700
Denver Co 80202

ATTN: Tom Fertel

3-16s-11w

TH Phillips #1-3

Start Date: 2010.07.09 @ 04:24:05

End Date: 2010.07.09 @ 09:24:05

Job Ticket #: 37248 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Samuel Gary & AssociatesInc

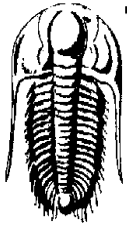
TH Phillips #1-3

3-16s-11w

DST # 1

Lansing

2010.07.09



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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Job Ticket: 37248

DST#: 1

Test Start: 2010.07.09 @ 04:24:05

GENERAL INFORMATION:

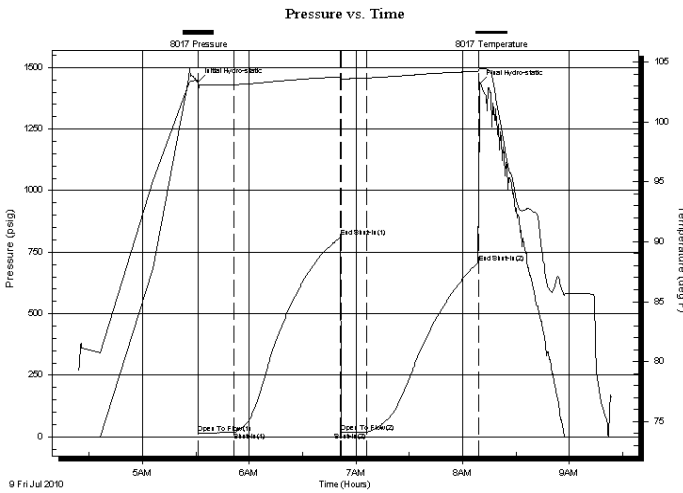
Formation: **Lansing**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:31:25
 Time Test Ended: 09:24:05
 Interval: **2985.00 ft (KB) To 3030.00 ft (KB) (TVD)**
 Total Depth: 3030.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole
 Tester: Jeff Brown
 Unit No: 31
 Reference Elevations: 1873.00 ft (KB)
 1863.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8017

Inside

Press@RunDepth: 17.75 psig @ 2989.00 ft (KB)
 Start Date: 2010.07.09 End Date: 2010.07.09
 Start Time: 04:24:10 End Time: 09:24:04
 Capacity: 8000.00 psig
 Last Calib.: 2010.07.09
 Time On Btm: 2010.07.09 @ 05:31:15
 Time Off Btm: 2010.07.09 @ 08:09:35

TEST COMMENT: IFP-Weak blow built to 1/4 in
 IS-Dead no blow back
 FFP-Dead no blow
 FSI-Dead no blow back



PRESSURE SUMMARY

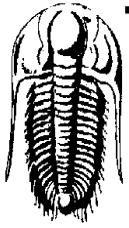
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1442.35	103.46	Initial Hydro-static
1	15.78	102.54	Open To Flow (1)
20	16.87	103.11	Shut-In(1)
81	809.49	103.77	End Shut-In(1)
81	18.80	103.46	Open To Flow (2)
95	17.75	103.67	Shut-In(2)
158	706.01	104.24	End Shut-In(2)
159	1434.72	104.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud w with a film of oil	0.07

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



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TESTING, INC**

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TOOL DIAGRAM

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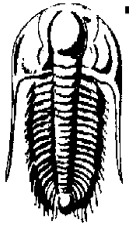
Test Start: 2010.07.09 @ 04:24:05

Tool Information

Drill Pipe:	Length: 2975.00 ft	Diameter: 3.80 inches	Volume: 41.73 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 38000.00 lb
			<u>Total Volume: 41.73 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 30000.00 lb
Depth to Top Packer:	2985.00 ft			Final 30000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	74.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			2957.00	
Shut In Tool	5.00			2962.00	
Hydraulic tool	5.00			2967.00	
Jars	5.00			2972.00	
Safety Joint	3.00			2975.00	
Packer	5.00			2980.00	29.00 Bottom Of Top Packer
Packer	5.00			2985.00	
Stubb	1.00			2986.00	
Perforations	3.00			2989.00	
Recorder	0.00	8017	Inside	2989.00	
Recorder	0.00	8352	Outside	2989.00	
Change Over Sub	1.00			2990.00	
Blank Spacing	31.00			3021.00	
Change Over Sub	1.00			3022.00	
Perforations	5.00			3027.00	
Bullnose	3.00			3030.00	45.00 Bottom Packers & Anchor
Total Tool Length:	74.00				



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FLUID SUMMARY

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3-16s-11w

Job Ticket: 37248

DST#: 1

Test Start: 2010.07.09 @ 04:24:05

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 43.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.18 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4100.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud w ith a film of oil	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

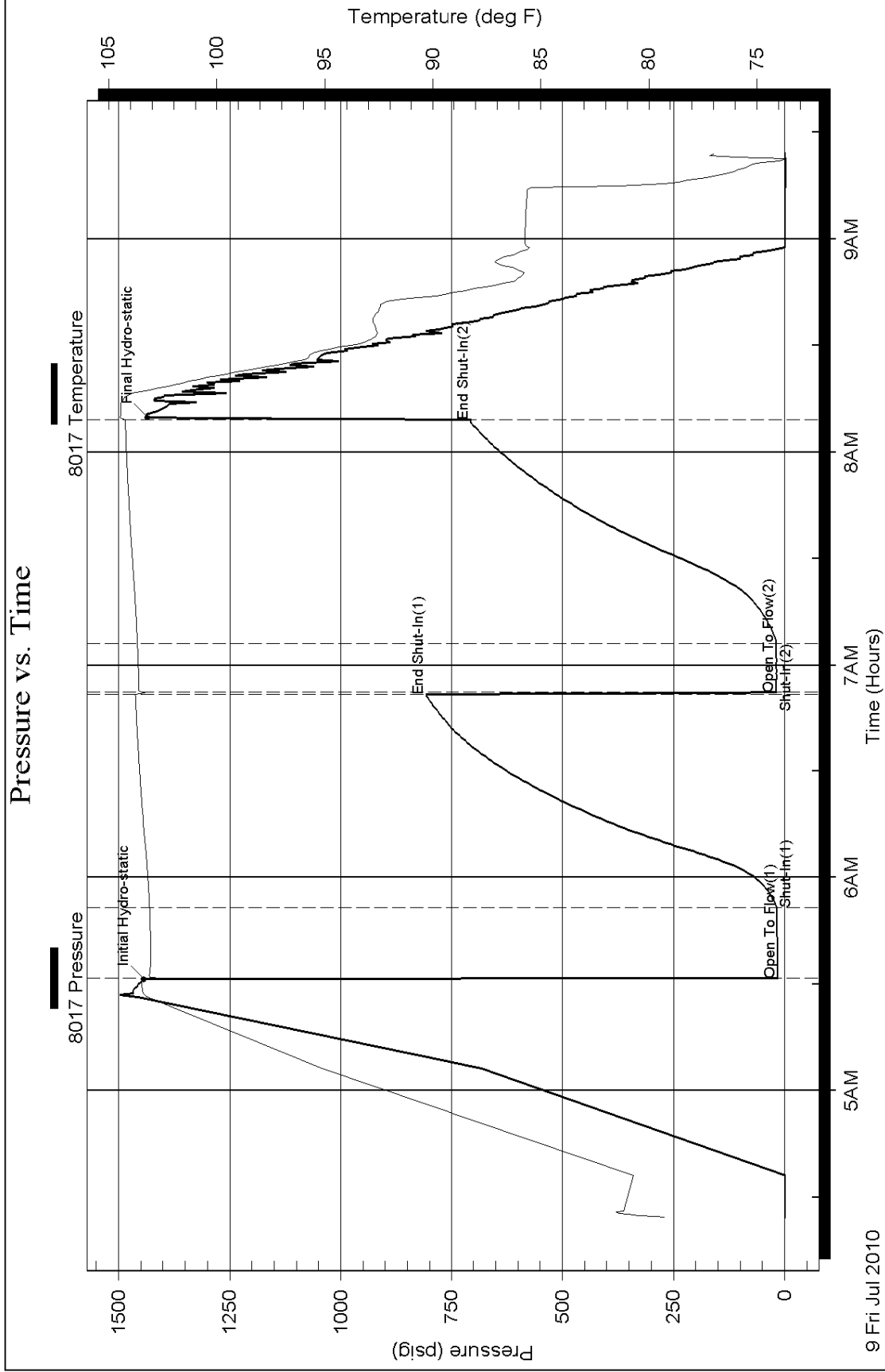
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



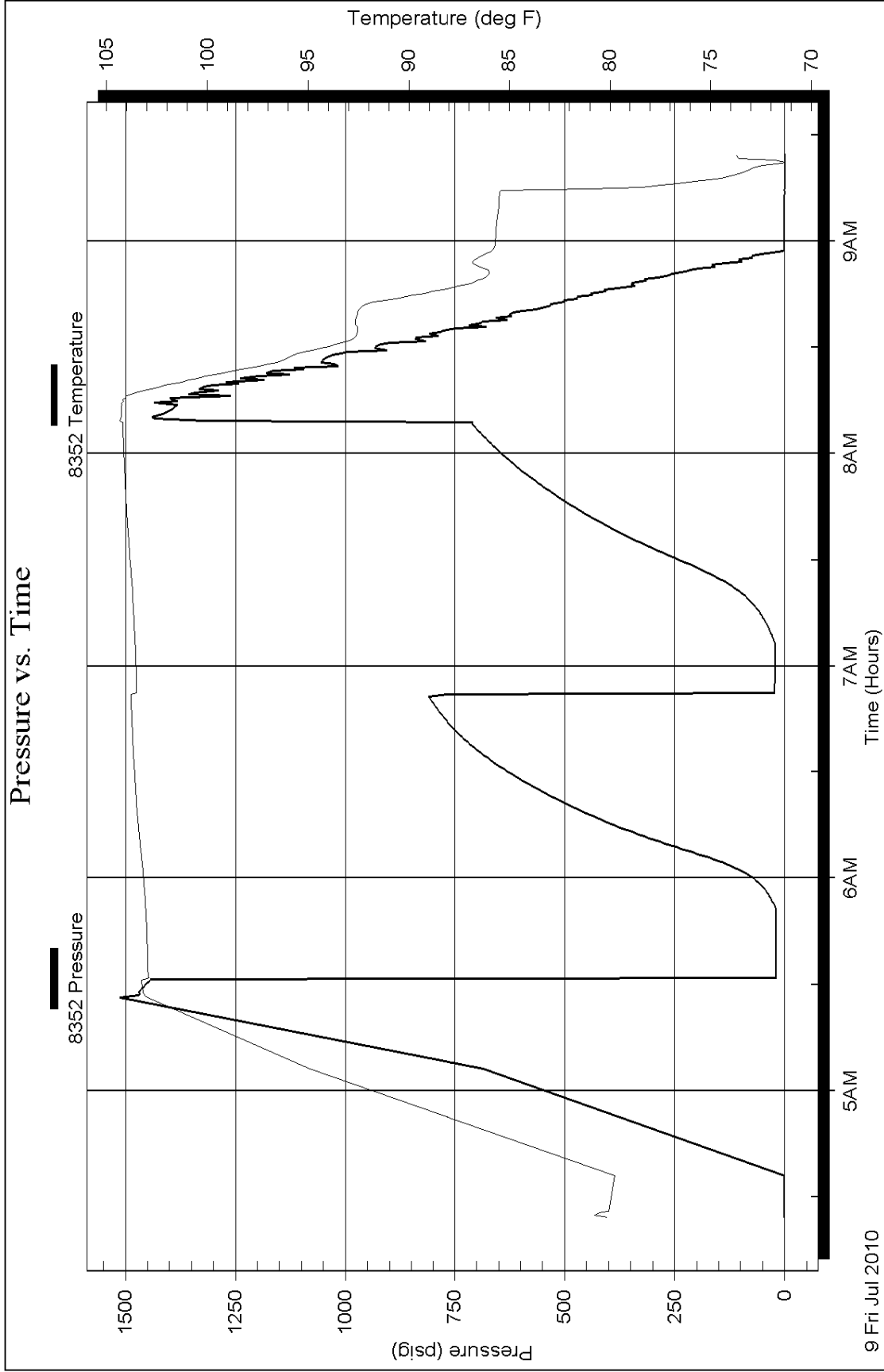
Serial #: 8352

Outside

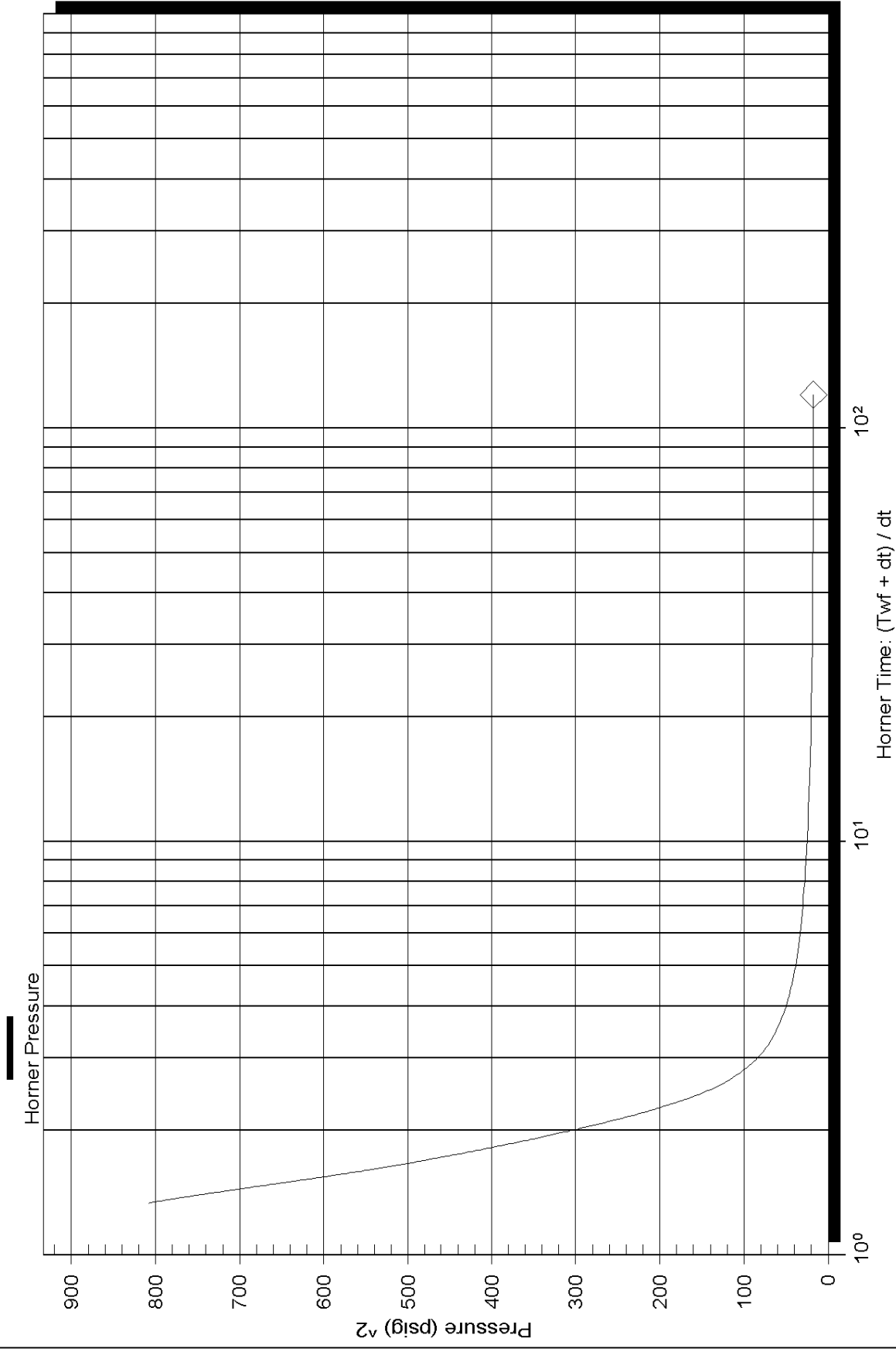
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DST Test Number: 1



Horner Plot

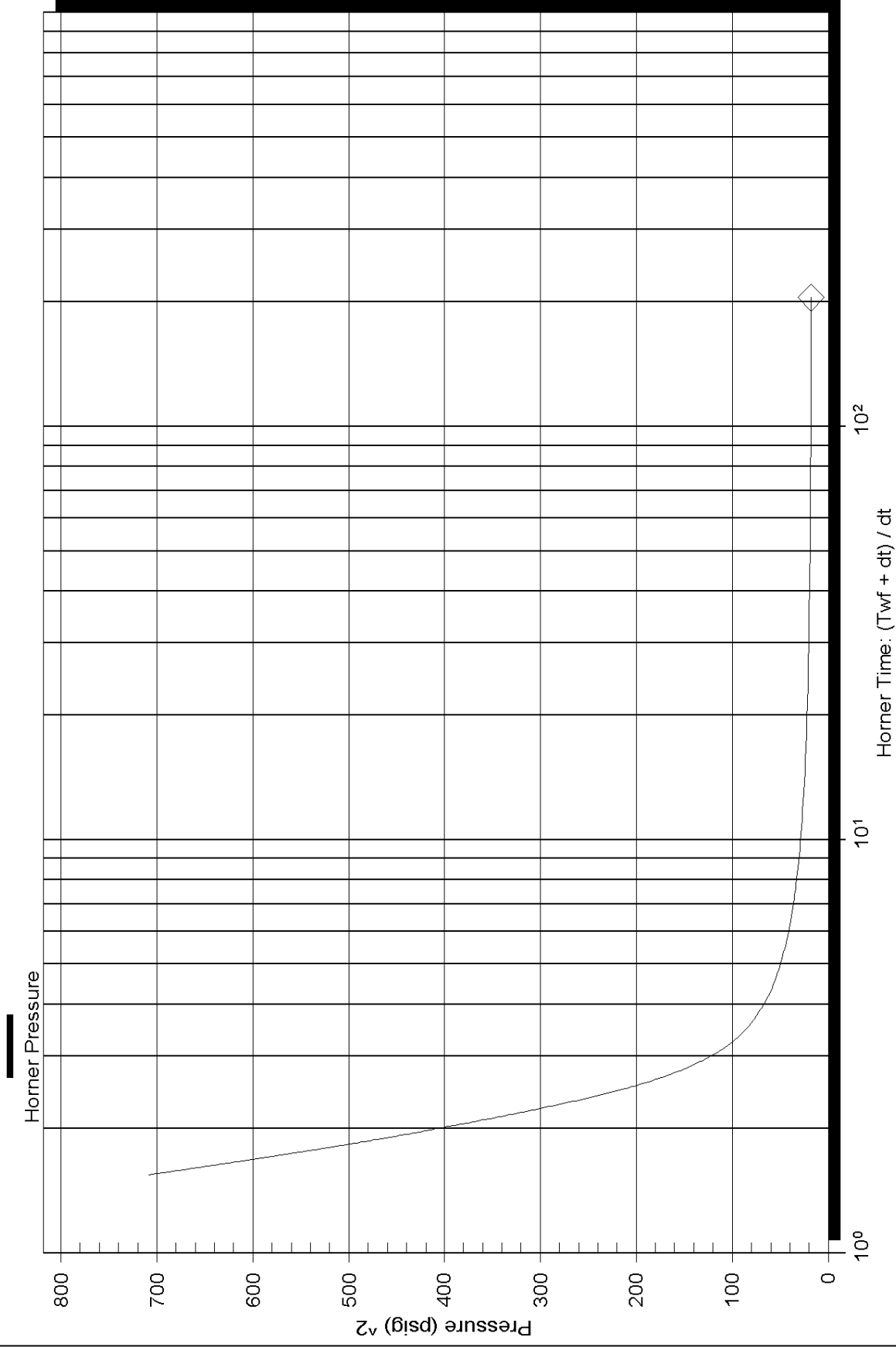


Serial Number: 8017 (Inside)

P* : Slope (m) : kpa/log cycle

Flow Cycle: 1

Horner Plot



Serial Number: 8017 (Inside)

Slope (m) : kpa/log cycle

P* :

Horner Time: (Twf + dt) / dt

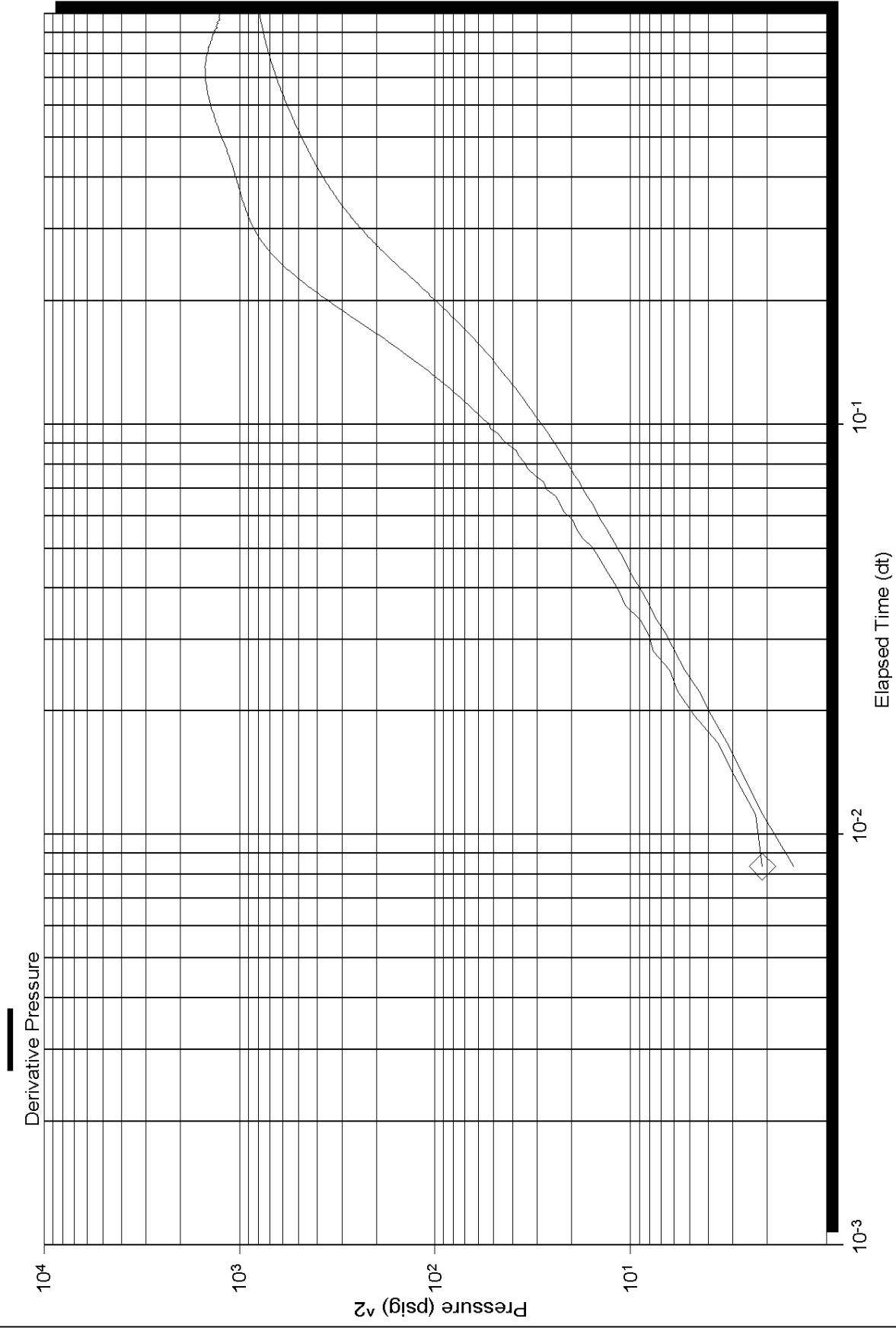
10²

10¹

10⁰

Flow Cycle: 2

Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Log-Derivative

